Instructor: Shawn Williams
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Class Webpage: Look for Math 212 on Canvas

Time: MWF 9-9:50AM
Classroom: MEL 254
Office Hours: TR 9-10AM or by appointment

Course content and objectives: The goals of this course include:

1. Gain familiarity with 3-dimensional space using various coordinate systems and multi-variable functions.
2. Learn to identify graphs of surfaces using various techniques.
3. Learn to identify and solve problems utilizing the dot product and cross product.
4. Explore applications of the gradient vector- its relationship to directional derivatives, Lagrange multipliers, the graph of a function, level curves and level surfaces.
5. Be able to explain the connection between Riemann sums and double integrals.
6. Identify, set-up and solve problems requiring double, line, surface, and triple integrals. Explore the meaning of these integrals in various situations.
7. Demonstrate your understanding of Green's theorem, Stokes theorem and the divergence theorem as they relate to the fundamental theorem of calculus, and recognize situations in which each theorem applies.

Text: https://openstax.org/details/books/calculus-volume-3

Quizzes: There will occasionally be a quiz at the start of class. These are not to be graded. These are to let me see how well you understand the recently covered material.

Homework:

- There will be an **online** homework due each day. This should take somewhere between 30 and 60 minutes each night. You should use these assignments to familiarize yourself with problem solving techniques and to practice computations. You can find these homeworks at: http://webwork.math.rice.edu/
- There will be one or two **written** assignments due each week. These will be longer and require you to apply various concepts that we learn throughout the semester. You must show all of your work and justify the answers that you provide. You should progressively work on these assignments throughout the week, and ask for help when needed. You can finde these on the class webpage.

Collaboration- The homework is not pledged. You are encouraged to collaborate with other students in the class, but only after you have given the problems a good amount of independent thought. Similarly, I am more than happy to talk with you about the homework, but only provided that you have worked on it before coming to me. You should write up your final solution **on your own**, without referring to work done with collaborators.

Late policy- Late homework assignments will not be accepted, barring a documented serious illness or other emergency. Instead, your lowest scored online and written assignments will be dropped.

Exams: There will be two midterm tests during the semester and a final exam. You will be allotted 2 hours for each midterm and 3 hours for the final exam.

Grades:
Homework: 20% (5% from online and 15% from written assignments).
Exams: 80% of your grade will be the maximum of the following three values:

25% midterm I +25% midterm II+30% final

20% midterm I +25% midterm II+35% final

25% midterm I +20% midterm II+35% final

Final Grades: When computing final course grades, a students exam scores are normalized against scores of all students in Math 212 this semester, not just those in this section.

Disability Support: Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with me during the first two weeks of class. All such discussions will remain as confidential as possible. Students with disabilities will need to also contact Disability Support Services in the Allen Center.